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10/533,063	05/12/2006	Robert Short	P-7714	3122

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EXAMINER	
HEYER, DENNIS	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/533,063	SHORT ET AL.	
	Examiner	Art Unit	
	DENNIS HEYER	1615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 June 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-25 and 33-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-25 and 33-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Acknowledgement is made of Applicant's remarks and amendments filed June 19, 2009. Acknowledgement is made of amendment to Claims 1, 14, 16, 18, 23 and 25. Acknowledgement is made of the cancellation of Claims 2 and 26 – 32 and addition of new Claims 33 – 37. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

Status of Claims

Claims 1, 3 – 25 and 33 – 37 are currently pending

Priority

This application, 10/533,063, filed 05/12/2006 is a national stage entry of PCT/GB03/04653 , International Filing Date: 10/29/2003. This application claims foreign priority under U.S.C. § 119 of United Kingdom patent application GB0225197.3, filed 10/30/2002.

Withdrawn Rejections

Claim rejections – 35 USC § 112 – 2nd Paragraph

The rejection of Claim 14 under 35 U.S.C. 112, second paragraph as being indefinite is rendered moot and is withdrawn in response to Applicant's amendments.

Claim rejections – 35 USC § 103

The rejection of Claims 1 - 20 under 35 U.S.C. 103(a) as being unpatentable over Short *et al.* in WO01/31339 A1 (published: May 03, 2001) in view of Mori *et al.* in US patent 5,053,398 (published: October 1, 1991), Hu *et al.* in US patent 4,865,870 (published: September 12, 1989) and Keogh *et al.* in US patent 5,925,552 (published: July 10, 1999) is withdrawn in response to Applicant's arguments and amendments.

The rejection of Claim 21 under 35 U.S.C. 103(a) as being unpatentable over Short (Short *et al.* in WO01/31339 A1; published: May 03, 2001) in view of Mori (Mori *et al.* in US patent 5,053,398, published: October 1, 1991), Hu (Hu *et al.* in US patent 4,865,870 (published: September 12, 1989) and Keogh (Keogh *et al.* in US patent 5,925,552, published: July 10, 1999) as applied to Claims 1 – 20 above, and further in view of Nilsson (Nilsson *et al.* in US2001/0017270, published: August 30, 2001) is withdrawn in response to Applicant's arguments and amendments.

The rejection of Claim 22 under 35 U.S.C. 103(a) as being unpatentable over Short (Short *et al.* in WO01/31339 A1; published: May 03, 2001) in view of Mori (Mori *et al.* in US patent 5,053,398, published: October 1, 1991), Hu (Hu *et al.* in US patent 4,865,870 (published: September 12, 1989), Keogh (Keogh *et al.* in US patent 5,925,552, published: July 10, 1999) as applied to Claims 1 – 20 above, and further in view of Dinh (Dinh *et al.* in US patent 5,554,182, published September 10, 1996).

The rejection of Claim 23 under 35 U.S.C. 103(a) as being unpatentable over Short (Short *et al.* in WO01/31339 A1; published: May 03, 2001) in view of Mori (Mori *et al.* in US patent 5,053,398, published: October 1, 1991), Hu (Hu *et al.* in US patent 4,865,870 (published: September 12, 1989) and Keogh (Keogh *et al.* in US patent 5,925,552, published: July 10, 1999), as applied to Claims 1 – 20 above, and further in view of Earhart (Earhart *et al.* in US patent 6,077,232, published June 20, 2000).

The rejection of Claim 24 under 35 U.S.C. 103(a) as being unpatentable over Short (Short *et al.* in WO01/31339 A1; published: May 03, 2001) in view of Mori (Mori *et al.* in US patent 5,053,398, published: October 1, 1991), Hu (Hu *et al.* in US patent 4,865,870 (published: September 12, 1989) and Keogh (Keogh *et al.* in US patent 5,925,552, published: July 10, 1999) as applied to Claims 1 – 20 above, and further in view of Brigstock (Brigstock et al. in US2001/007019, published: July 5, 2001).

The rejection of Claim 25 under 35 U.S.C. 103(a) as being unpatentable over Short (Short *et al.* in WO01/31339 A1; published: May 03, 2001) in view of Mori (Mori *et al.* in US patent 5,053,398, published: October 1, 1991), Hu (Hu *et al.* in US patent 4,865,870 (published: September 12, 1989) and Keogh (Keogh *et al.* in US patent 5,925,552, published: July 10, 1999), as applied to Claims 1 – 20 above, and further in view of Dukler (Dukler *et al.* in US2002/0094541, published: July 18, 2002).

Double Patenting

The provisional obviousness-type double patenting rejection of Claims 1 – 3 and 21 over claims 48 – 53 of copending Application No. 11/269,427 (Short *et al.*, the '990 application) is moot in light of the abandonment of the application 11/269,427.

Response to Arguments

Applicant's arguments in the response filed June 19, 2009 have been considered and are moot in light of the Amendments to Claim 1. The new rejections cited below are necessitated by amendment to Claim 1 and the addition of Claims 33 – 37 in the response filed June 19, 2009.

New and/or Maintained Rejections

New Rejections

Claim rejections – 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3 – 13, 15 – 16 and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Short *et al.* in WO 01/31339 A1 (published: May 03, 2001) as evidenced by Alberts *et al.* in Molecular Biology of the Cell, Garland Publishing, 1983.

The Short reference teaches a method comprising providing an organic monomer, creating a plasma of said organic monomer and coating the surface with said plasma to provide a an assay surface (Claim 27). The reference further teaches performing a biological assay comprising providing a biological molecule bound to a substrate which has the characteristics of a surface which has been treated by plasma polymerization (page 9, lines 23 – 26). Short also teaches binding of immunoglobulin G (IgG) (an antibody) to plasma surfaces (page 12, 1st paragraph). The Alberts reference is provided as an evidentiary reference to illustrate that antibodies contain carbohydrate chains (page 965, Figure 17-17).

Regarding instant Claim 1, it is the position of the Examiner that Short teaches the steps, as part of said biological assay, in which a biological molecule is bound to a surface which has been treated by plasma polymerization. The step of 'binding' is reasonably interpreted as the biological molecule *contacting* the plasma treated surface. It is further the position of the Examiner, absent a showing of evidence to the contrary, that the newly added limitation of passively absorbed on the surface "and thereby immobilized" recited in instant Claim 1, step v, is met by the disclosure of Short that the

biological molecule is 'bound' to the plasma treated surface (page 9, lines 23 – 26). Regarding the newly added limitation to instant Claim 1 of "incubating said plasma polymer coated surface with said carbohydrate", the Short reference teaches an Example wherein the IgG antibody (referred to by Short as a 'protein') was allowed to bind to the (plasma copolymer) surfaces overnight (page 12, 1st paragraph), which is clearly an incubation step. Finally, the limitation in instant Claim 1, step v, that the passively absorbed and thereby immobilized carbohydrate molecule retains it's biological activity, is accorded no patentable weight as such an outcome would necessarily result from the method steps taught by Short which, as noted above, are the same as those recited in the instant Claim.

Regarding instant Claim 3, the Short reference teaches an Example of an immunoassay in which the antibody (carbohydrate) is in solution (page 13, lines 2 – 12).

Instant Claims 4 – 7 and 11 are drawn to the composition of the monomer in the method of instant Claim 1. Regarding instant Claims 4 – 7, the Short reference teaches plasma monomers that are volatile alcohols, amines, hydrocarbons and acids (page 3, lines 27 – 31 and Claim 22). Regarding instant Claim 11, the volatile alcohols, amines and acids taught in the rejection of instant Claims 4, 5 and 7, contain hydroxyl, amino and carboxylic acid groups, respectively (see also page 8, lines 1 – 4, specifically teaching, allyl alcohol, acrylic acid and allyl amine).

Regarding instant Claims 8 – 10, drawn to the percent nitrogen content on surface comprising a polymer, formed by the method of instant Claim 1 Short teaches

the allyl amine-based polymer surface prepared by the method of instant Claim 1, has a nitrogen content greater than 20% (page 14, 5 – 9).

Regarding instant Claim 12, the reference teaches that the monomer comprising the method of instant Claim 1 is allylamine (page 14, 5 – 9).

Instant Claim 13 is drawn to the vapor pressure of the monomer. The Short reference teaches the same monomers as the instant application, accordingly, the monomers would necessarily have the same vapor pressure properties.

Regarding instant Claims 15, 16, 35 and 36, the Short reference teaches the limitation of a polymer composition comprising an amine copolymer obtained by plasma polymerization of alkanes and alkenes (page 8, lines 6 – 7 and 20 – 26, Claims 22 – 25; instant Claims 15, 16 and 36).

Claims 1, 3, 5 – 7, 11, 18 – 20 and 22 are rejected under 35 U.S.C. 102(b) as being as being anticipated by Yan *et al.* in US patent 6,776,792 (filed: April 24, 1997).

Yan *et al.* teach an implantable stent coated with a material that attracts the glycosaminoglycan carbohydrate heparin (instant Claims 18 – 20) and forms a bond (i.e. heparin contacts a surface and is immobilized; Abstract). Yan teaches that the stent surface coating is formed by plasma deposition with methane, ammonia gas, other amine containing monomers and acrylic acid (page 3, lines 6 – 22; instant Claim 1, steps i – iii and Claims 5 – 7 and 11). Yan also teaches contacting the plasma coated surface (instant Claim 1, step iv) with heparin, via ionic bonds (Figure 2 and column 2, lines 1 – 5 teach an ionic bonding interaction between heparin and the surface; instant

Claim 1, steps i - iv). Finally, Yan teaches the incubation step recited in amended Claim 1 (step v) by pretreating the plasma coated surface (stent) with a heparinized saline solution (instant Claim 3) prior to implantation in order to adjust the heparin level (column 4, lines 4 – 7). Therefore, the carbohydrate is immobilized using the method steps recited in instant Claim 1 and accordingly, such an outcome results in heparin being passively (ionically) absorbed and retaining is anticoagulant biological activity (column 1, lines 8 – 24).

Claim 22 is drawn to the method of instant Claim 1 wherein the surface is part of a therapeutic vehicle. This limitation is taught by Yan in which a carbohydrate, heparin, is immobilized on the surface of a stent (a therapeutic vehicle).

Claim rejections – 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 14 and 33 – 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Short *et al.* in WO 01/31339 A1 (published: May 03, 2001) as evidenced by as evidenced by Alberts *et al.* in Molecular Biology of the Cell, Garland Publishing, 1983 as applied to 1, 3 – 13, 15 – 16 and 36 in the 102(e) rejection above, as evidenced by Karwoski *et al.* in US patent 6,632,842 (published December 30, 1986).

Short, as evidenced by Alberts, teaches the limitations of instant Claims 1, 3, 5 – 7, 11, 18 – 20 and 22. Regarding instant Claims 14, 33 and 34 drawn to the plasma power input ratio W/FM, Short teaches the conditions for plasma polymerization in which the plasma power is < 10 W (page 9, lines 17 – 18), the monomer flow rate < 5 cc/min (page 9, lines 17 – 18), a reactor pressure of approximately 1.5×10^{-1} mbar (page 11, lines 7 – 9) and RF power of 13.56 MHz (page 10, line 26). When these parameters for plasma polymerization are read in light of those recited on page 15 of the instant specification (W<10, flow rate between 1 – 5 cc/min, pressure 'around 2×10^{-2} mbar' and RF power of 13.56 MHz) it appears that the plasma power of Short is deposited from a plasma (W/FM) within the same ranges as those claimed in instant Claims 14, 33 and 34. The Karwoski reference is cited to provide evidence that the formula W/FM represents the type of gas used, the gas flow rate and pressure, and the RF field strength, wherein W denotes discharge power (which is proportional to field strength), F is the flow rate of the gas, and M is the molecular weight of the plasma gas

(column 10, lines 27 – 31). Thus, one would have been motivated to use the ranges for W/FM recited in instant Claims 14, 33 and 34 because these same ranges have already been successfully used by Short to provide plasma coated assay binding surfaces containing the same genus of plasma monomers.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yan *et al.* in US patent 6,776,792 (filed: April 24, 1997), as applied to Claims 1, 3, 5 – 7, 11, 18 – 20 and 22 in the 102(e) rejection above, and further in view of Mori *et al.* in US patent 5,053,398 (published: October 1, 1991).

Yan teaches the limitations of instant Claims 1, 3, 5 – 7, 11, 18 – 20 and 22 but does not teach the method of instant Claim 1 wherein the carbohydrate is a homopolysaccharide.

Regarding instant Claim 17, Mori discloses sulfated homopolysaccharides with anti-HIV activity (Title). One of ordinary skill, cognizant of the teachings of Yan regarding immobilization of the polyanionic carbohydrate heparin on a plasma treated surface to gain benefit of it's anticoagulant activity when administered to a patient, would have been motivated to adapt the method of Yan to immobilize the polyanionic carbohydrate of Mori to a plasma coated surface in order to obtain the benefit of it's anti-HIV activity when administered to a patient. Accordingly, it would have been *prima facie* obvious to one of ordinary skill in the art, at the time the invention was made, to adapt the method taught by Yan, to immobilize the homopolysaccharide of Mori to a surface, with a reasonable expectation of success, in order to obtain the benefit of delivering the anti-HIV homopolysaccharide drug to a patient in need.

Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Short *et al.* in WO 01/31339 A1 (published: May 03, 2001) as evidenced by Alberts *et al.* in Molecular Biology of the Cell (Garland Publishing, 1983), as applied to Claims 1, 3 – 13, 15 – 16, 18 – 20, 22 and 36 in the 102(b) rejection above, in view of Nomura in US patent 6,022,602 (published: February 8, 2000).

Short teaches the limitations of instant Claims 1, 3 – 13, 15 – 16, 18 – 20, 22 and 36. Short teaches that the plasma comprises an amine copolymer comprising a hydrocarbon such as an alkene, alkyne or diene but is silent on the limitation that the hydrocarbon is an alkane (instant Claim 35).

Nomura teaches plasma modification of lumen surface tubing (Title, said tubing having usefulness in medical devices (Abstract). Nomura teaches that polymerizable monomers include allylamine, alkanes and alkenes etc. and may comprise a mixture of said monomers (column 13, lines 9 – 17). Accordingly, the skilled artisan, cognizant that the monomers taught by Nomura for the plasma gas sources, can be selected from alkanes (instant Claim 35), olefins, allylamine, acrylic acid etc. and mixtures thereof, would have been motivated to employ these monomer mixtures in order to, through routine experimentation, optimize the coating properties.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Short *et al.* in WO 01/31339 A1 (published: May 03, 2001) as applied to Claims 1, 3 – 13, 15 – 16 and 36 above, and further in view of Nilsson *et al.* in US2001/0017270 (published: August 30, 2001).

As noted above, Short teaches the limitations of instant Claims 1, 3 – 13, 15 – 16 and 36, drawn to a surface to which biological molecules may bind and be assayed but do not teach the limitations of instant Claim 21 in which the surface of instant Claim 1 is part of a biosensor.

Instant Claim 21 is drawn to the surface of instant Claim 1, wherein the surface is part of a biosensor. Nilsson teaches immobilized carbohydrate biosensors in which the carbohydrate or derivative is used to generate a detectable signal via specific binding of a protein, virus or cell (Abstract, section [0001]. One would have been motivated to adapt the method of Short, wherein the surface is part of a biosensor, because both the assay surface of Short and that of Nilsson teach the binding of biological molecules to a surface. Thus, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to adapt the method taught by Short in which biological molecules bind and are assayed, to a biosensor surface, in which macromolecules also bind and are assayed, in order to gain the benefit of generating a detectable signal in response to protein virus or cell binding.

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yan *et al.* in US patent 6,776,792 (filed: April 24, 1997), as applied to Claims 1, 3, 5 – 7, 11, 18 – 20 and 22 in the 102(e) rejection above, and further in view of Earhart *et al.* in US patent 6,077,232 (published June 20, 2000).

As noted above in the 102(e) rejection above, Yan teaches the limitations of instant Claims 1, 3, 5 – 7, 11, 18 – 20 and 22, drawn to a surface of a stent which serves as a substrate for the delivery of the anticoagulant heparin, but does not teach

the limitations of instant Claim 23 in which the surface of instant Claim 1 is part of a biological sample collection device.

Earhart teaches a blood (biological sample) collection device comprising the carbohydrate heparin to inhibit the coagulation of blood samples (Abstract and Figures 1 and 2). Earhart is silent on the source of the blood as recited in instant Claims 23 and 37 (animal and human respectively) disclosing that the blood is that of a 'donor' (column 5, Chart A). One would have been motivated to adapt the stent surface of Yan, which delivers the anticoagulant heparin to the blood of a patient upon implantation, to a surface that is part of a blood collection device (Earhart) since both references teach the use of the carbohydrate heparin for the same purpose, to inhibit the coagulation of blood.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Short *et al.* in WO 01/31339 A1 (published: May 03, 2001) as applied to Claims 1, 3 – 13, 15 – 16 and 36 above, and further in view of Brigstock *et al.* in US 20010007019 (published: July 5, 2001).

As noted in the 102(b) rejection above, Short teaches the limitations of instant Claims 1, 3 – 13, 15 – 16 and 36, drawn to a surface to which biological molecules bind and are assayed, but the reference does not teach the limitations of instant Claim 24 in which the surface of instant Claim 1 is part of an affinity purification matrix.

Brigstock teaches heparin binding to identify heparin growth factor (HBGF) polypeptides as part of an affinity purification matrix and, in a specific Example, applies the method to purify uterine luminal flushings (paragraphs [0017] and [0018]; Figures 1a

and 1b). Brigstock teaches that HBGF polypeptides each have different heparin binding properties (paragraph [0027]). One would have been motivated to adapt the surface of Short as part of an affinity purification matrix for the detection and purification of HBGF, as taught by Brigstock because both surfaces teaches binding of carbohydrates and would therefore be able to detect and purify HGBF in order to gain benefit of therapies related to uncontrolled tissue growth (paragraph [0030]).

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Short *et al.* in WO 01/31339 A1 (published: May 03, 2001) as applied to Claims 1, 3 – 13, 15 – 16 and 36 above, and further in view of Dukler *et al.* in US2002/0094541 (published: July 18, 2002).

As noted in the 102(b) rejection above, Short teaches the limitations of instant Claims 1, 3 – 13, 15 – 16 and 36, drawn to a surface to which biological molecules bind and are assayed, but the reference does not teach the limitations of instant Claim 25 in which the surface of instant Claim 1 is part of a microarray.

Dukler teaches a method of identifying a carbohydrate capable of binding to other entities such as polypeptides via a library of carbohydrate structures attached to a surface at a specific and addressable location of an array (Abstract, Claim 1). Dukler teaches that carbohydrate libraries, attached to a solid support (a surface) can be used to identify carbohydrate associated receptors as potential targets for drug therapy (paragraph [0002]). Accordingly, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to adapt the surface carbohydrate

immobilization method disclosed by Short wherein the surface is part of a microarray in order to identify potential new targets for drug therapy, as taught by Dukler.

Conclusion

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DENNIS HEYER whose telephone number is (571)270-7677. The examiner can normally be reached on Monday-Thursday 8AM-5PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, BRANDON FETTEROLF can be reached at (571)272-2919. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DH
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